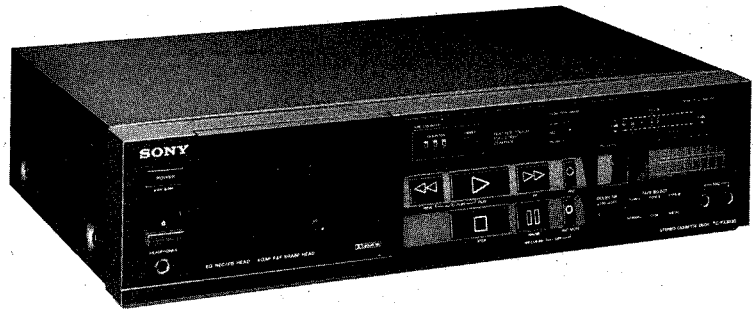
TC-FX3030

SERVICE MANUAL

AEP Model



'Dolby' and the double-D symbol are the trade marks of Dolby Laboratories Licensing Corporation. Noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation.

Tape Transport Mechanism Type	TCM-130V11

SPECIFICATIONS

Recording System: 4-track 2-channel stereo
Fast-forward and rewind time: Approx. 100 sec. (with C-60 cassette)
Bias frequency: 105 kHz
Signal-to-noise ratio: (NAB, at peak level)

Cassette \ Dolby NR switch	OFF	ON
TYPE IV (Sony METALLIC)	58dB	65dB
TAPE II (Sony UCX)	56dB	63dB
TAPE I (Sony BHF or HFX)	54dB	61dB

Total harmonic distortion: 1.0 % (with Sony METALLIC cassette)
Frequency response: DOLBY NR OFF
- With TYPE IV cassette (Sony METALLIC)
  20-17,000 Hz
  30-15,000 Hz (±3dB)
  30-13,000 Hz (±3dB, 0VU recording)
  30-15,000 Hz (DIN)
- With TYPE II cassette (Sony UCX)
  20-17,000 Hz
  30-14,000 Hz (±3dB)
  30-15,000 Hz (DIN)
- With TYPE I cassette (Sony BHF or HFX)
  20-16,000 Hz
  30-13,000 Hz (DIN)

Wow and flutter: 0.05 % WRMS (NAB)
±0.14 % (DIN)

Inputs: Microphone inputs (phone jacks)
Sensitivity 0.25 mV (−70dB)
For low-impedance microphone
Line inputs (phone jacks)
Sensitivity 77.5 mV (−20dB)
Input impedance 50k ohms

Outputs: Line outputs (phone jacks)
Output level 0.44 V (−5dB) at load impedance 50k ohms
Load impedance over 10k ohms
Headphone output
Output level −28dB at a load impedance of 8 ohms

General
Power requirements: 220 V ac, 50/60 Hz
Power consumption: 10 watts
Dimensions: Approx. 430 x 105 x 275 mm (w/h/d) (17 x 4 1/4 x 10 7/8 inches)
Weight: Approx. 4.0 kg (8 lbs 14 oz)

0 dB = 0.775 V

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

MICROFILM

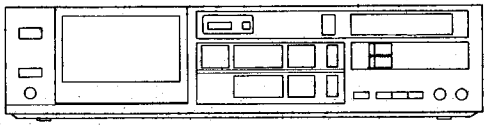
STEREO CASSETTE DECK

SONY®

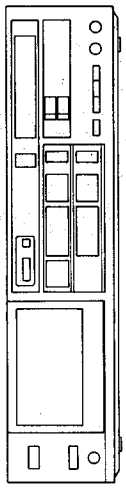
TC

NOTES ON REPAIR

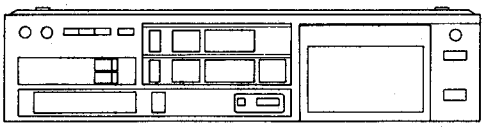
When the mechanism section is operated with the set in an upside-down position, misoperation may result. For repair while operating the mechanism section, perform with the set in its normal position or standing on its side.



good



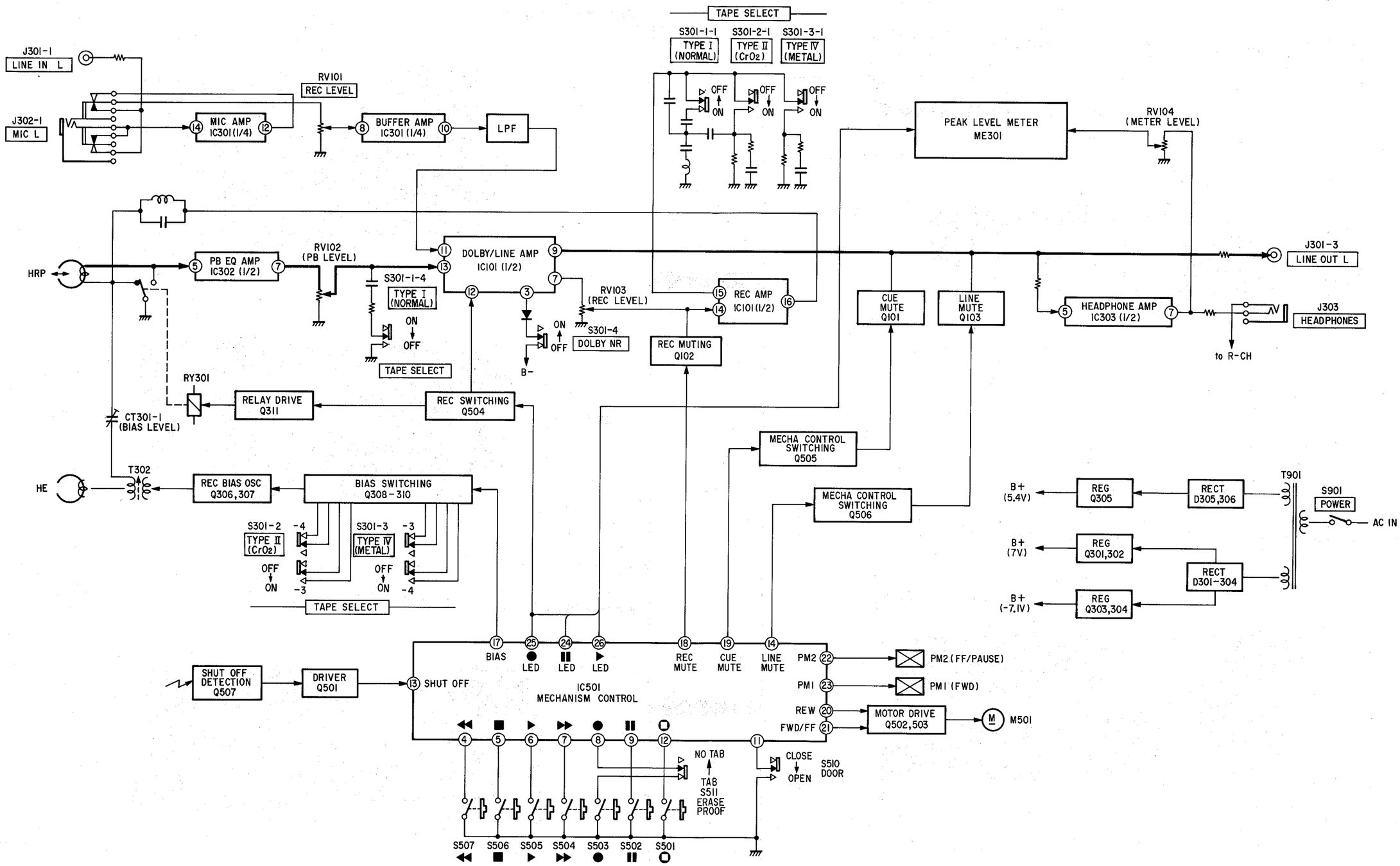
good



wrong

SECTION 1
OUTLINE

1-1. BLOCK DIAGRAM



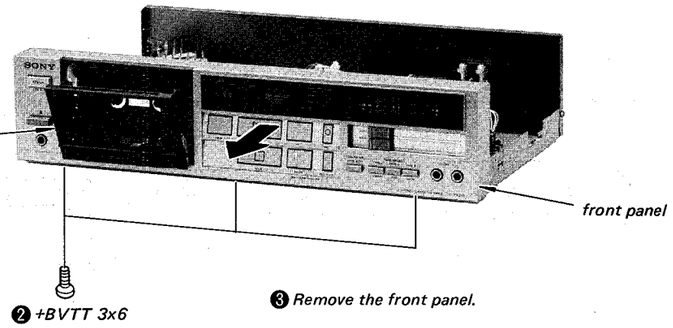
SECTION 2
DISASSEMBLY

• Follow the disassembly procedure in the numerical order given.

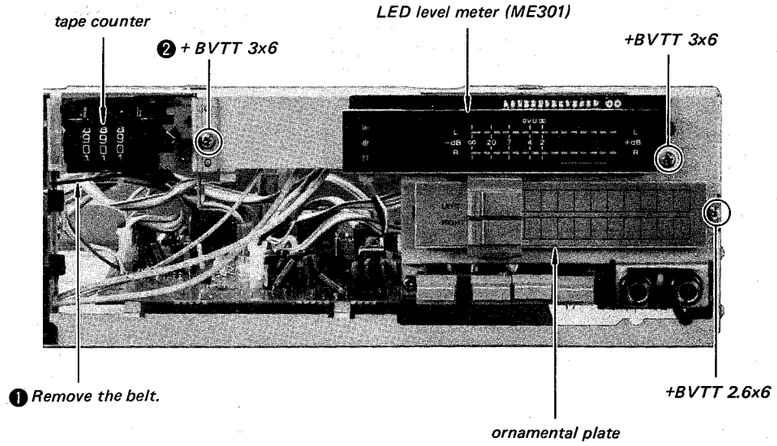
Remove the case.
(4 screws)

Remove the bottom plate.
(3 screws)

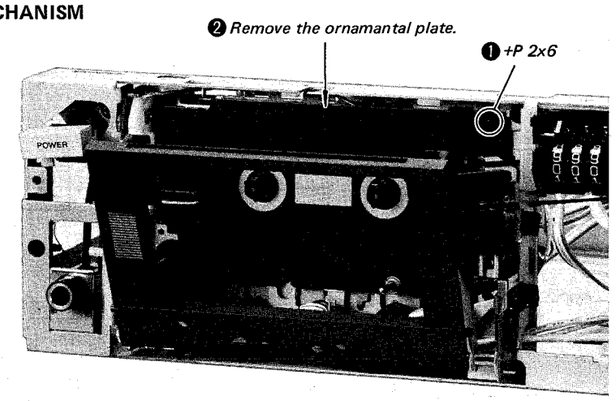
FRONT PANEL

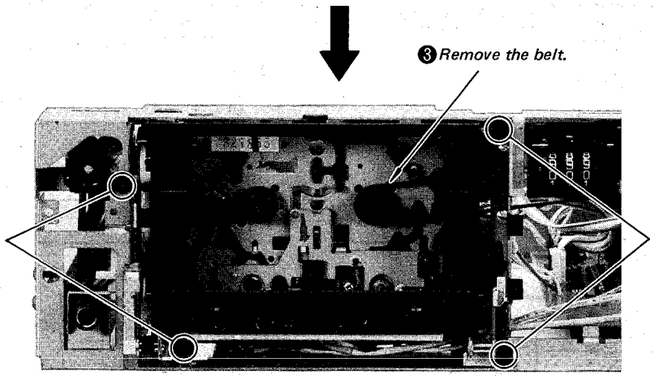


TAPE COUNTER, LED LEVEL METER, ORNAMENTAL PLATE



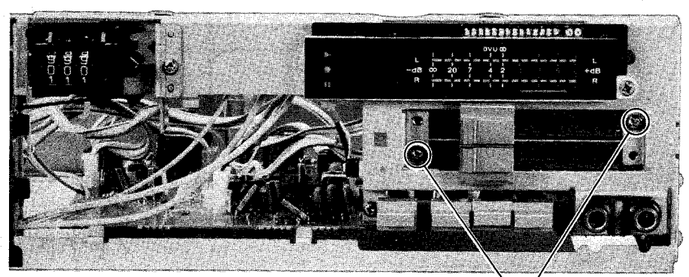
TRANSPORT MECHANISM





❺ Remove the transport mechanism.

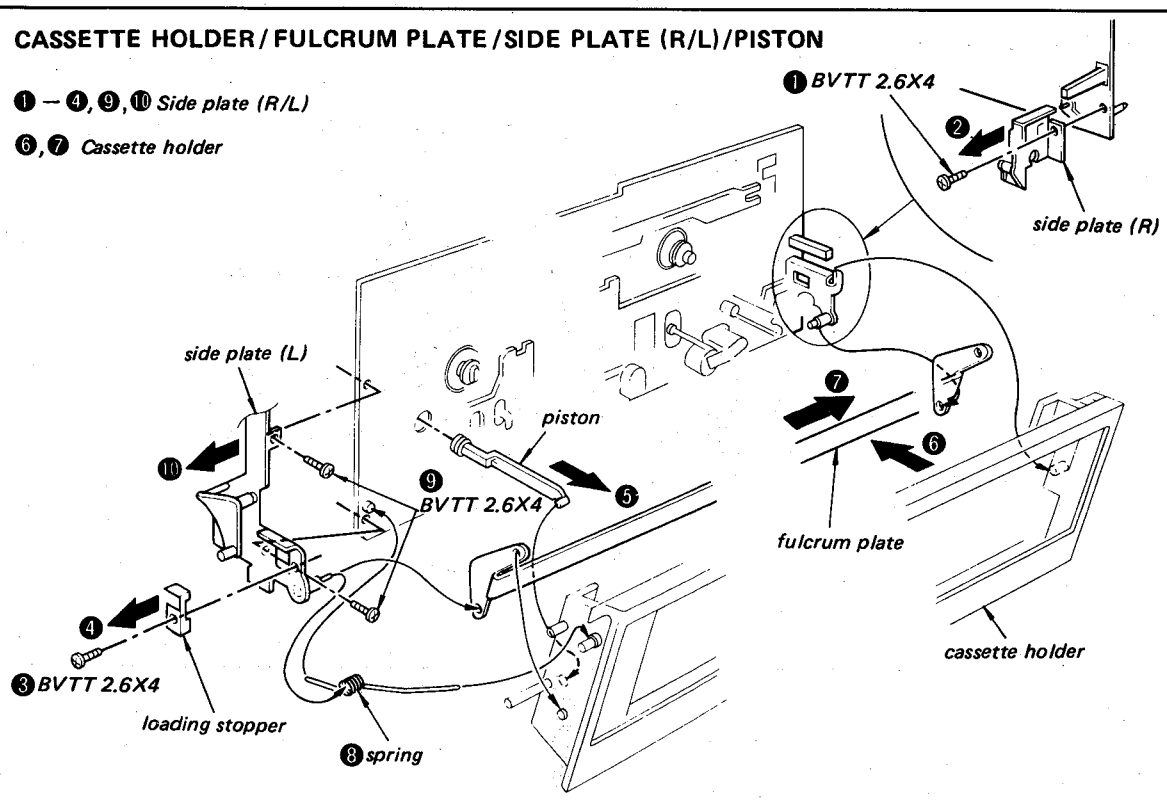
VOLUME BOARD



CASSETTE HOLDER / FULCRUM PLATE / SIDE PLATE (R/L) / PISTON

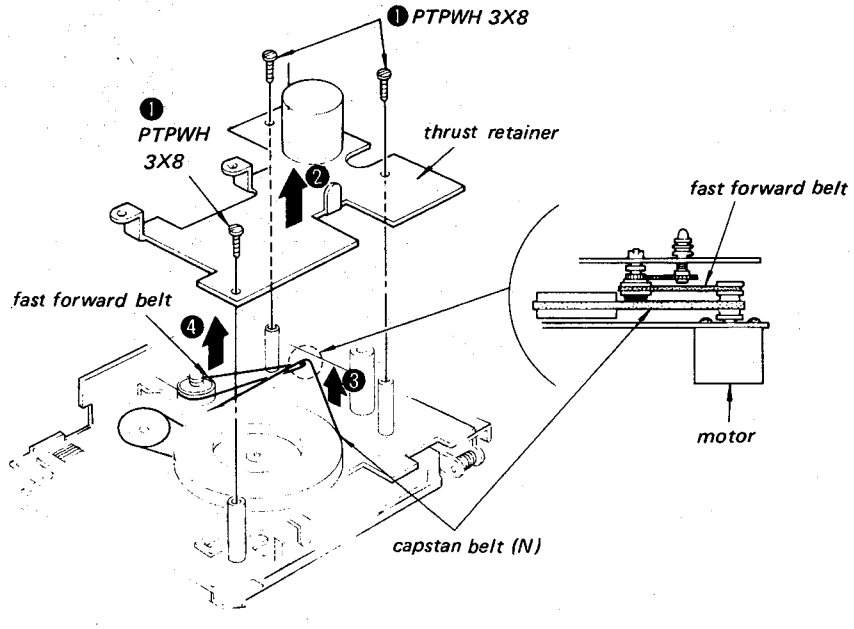
❶ – ❹, ❾, ❿ *Side plate (R/L)*

❻, ❼ *Cassette holder*

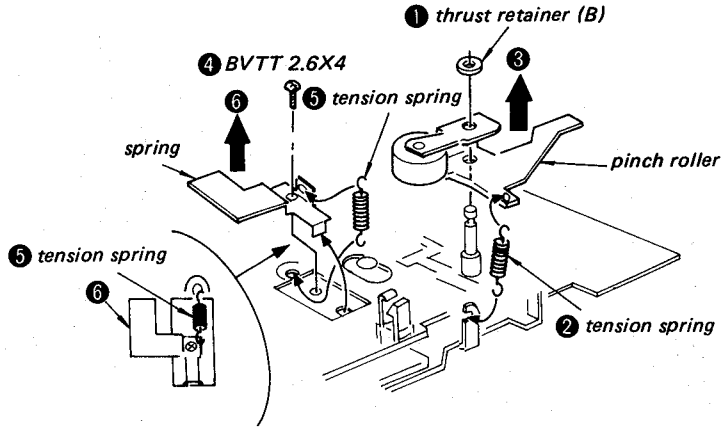


THRUST RETAINER / CAPSTAN BELT / FAST FORWARD BELT

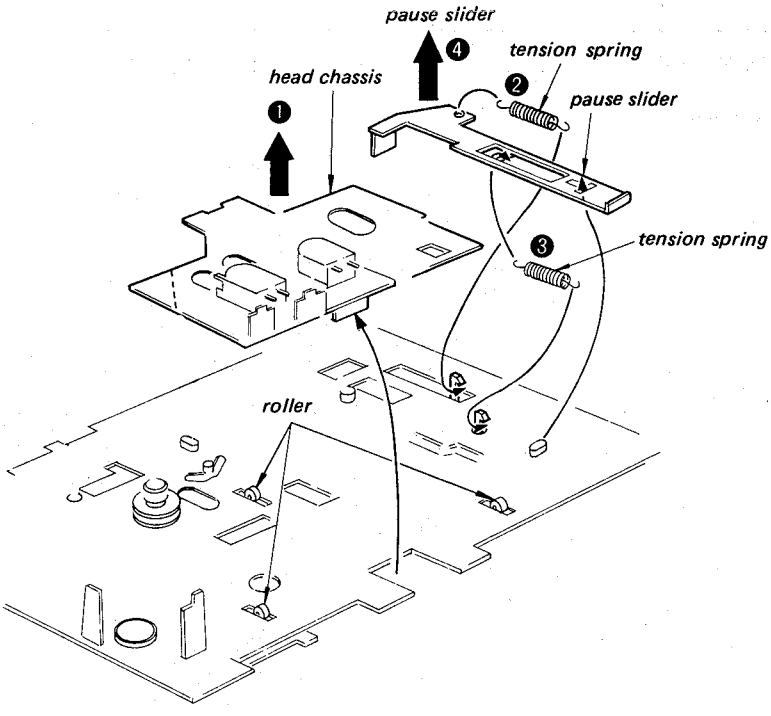
❶, ❷ *thrust retainer*



PINCH ROLLER/SPRING



HEAD CHASSIS/PAUSE SLIDER



SECTION 3
ADJUSTMENTS

3-1. MECHANICAL ADJUSTMENTS

PRECAUTION

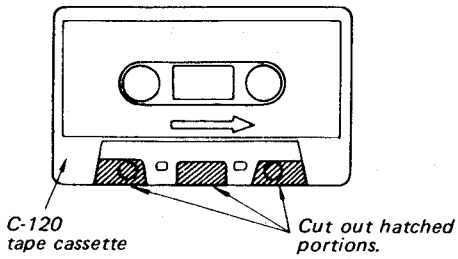
1. Clean the following parts with a denatured-alcohol-moistened swab:

record/playback head	pinch roller
erase head	rubber belts
capstan	idlers

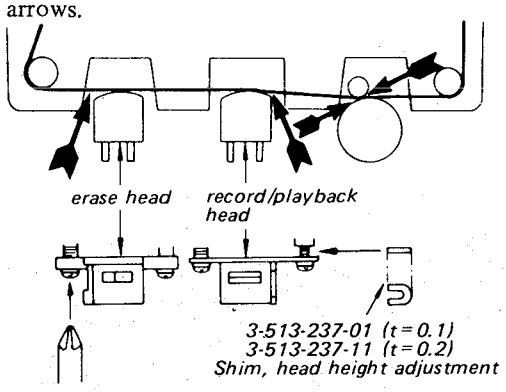
2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Head Height Adjustment

1. Prepare an adjustment cassette as shown below.



2. In playback mode and viewing from the front, adjust the head heights to eliminate tape curl and tape twist at the portions shown by the arrows.

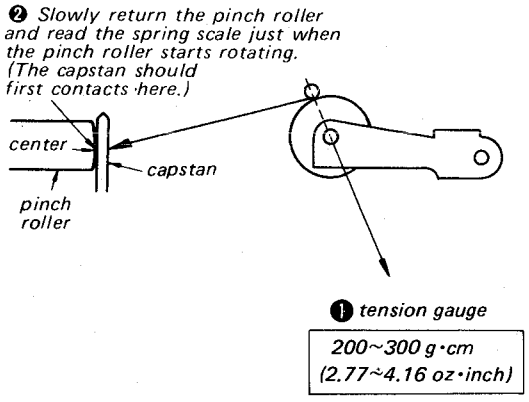


Torque Measurement

Torque	Torque meter	Meter reading
Forward	CQ-102C	28~60g·cm (0.39~0.83 oz·inch)
Back Tension	CQ-102C	2.2~6.5 g·cm (0.03~0.09 oz·inch)
Fast Forward and Rewind	CQ-201B	80~165 g·cm (1.1~2.28 oz·inch)

Pinch Roller Pressure Measurement

— Playback Mode —

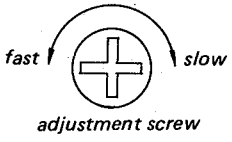


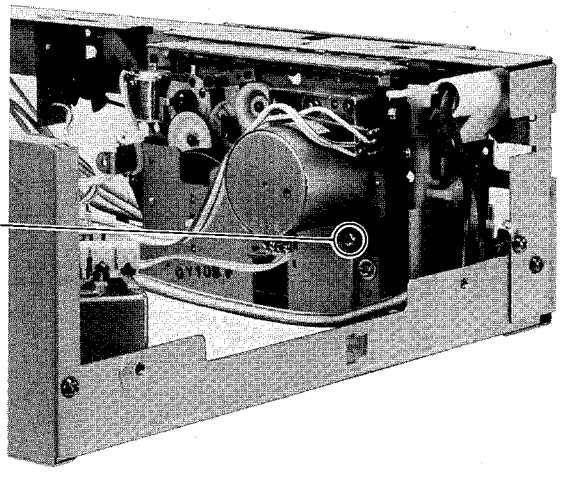
Soft Eject Adjustment

Specification

Eject time
0.4~2.5 sec.

Set the tape (C-90) and adjust the adjustment screw so that the specified EJECT TIME is obtained.





3-2. ELECTRICAL ADJUSTMENTS

Note: The adjustment should be performed in the order given in this service manual. The adjustments should be performed for both L-CH and R-CH.

- Set the TAPE switches according to the tape as follows.

Tape	Tape Switch
CS-15	TYPE I NORMAL
CS-26	TYPE II CrO_2
CS-40	TYPE IV METAL

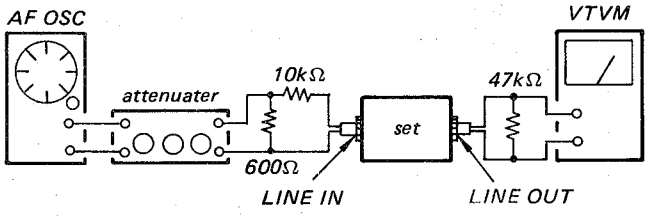
- Switches and controls should be set as follows unless otherwise specified.

DOLBY NR switch: OFF
TAPE SELECT switch: TYPE I NORMAL

- Standard Record:

Deliver the standard input signal level to the input jack and set the REC LEVEL control to obtain the standard output signal level.

– Record Mode –



Standard Input Level

	MIC	LINE IN
source impedance	300Ω	10kΩ
input level	0.77mV (–60dB)	0.25V (–10dB)

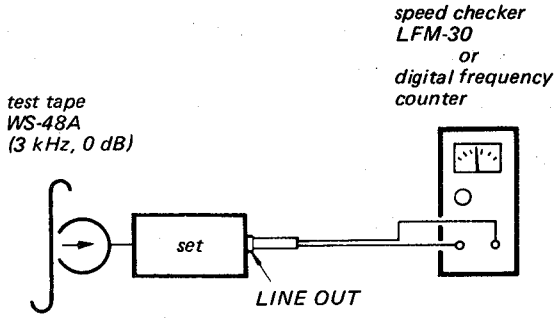
Standard Output Level

	HEADPHONES	LINE OUT
load impedance	8Ω	47kΩ
output level	31mV (–28dB)	0.435V (–5dB)

Capstan Motor Speed Adjustment

Procedure:

Mode: playback

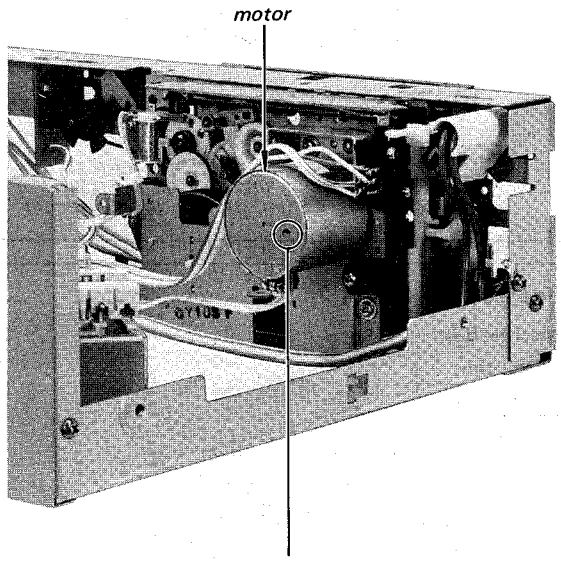


Specification:

Speed checker	Digital frequency counter
–0.8~+0.8%	2,975~3,025Hz

Frequency difference between the beginning and the end of the tape should be within 0.8% (25Hz).

Adjustment Location:

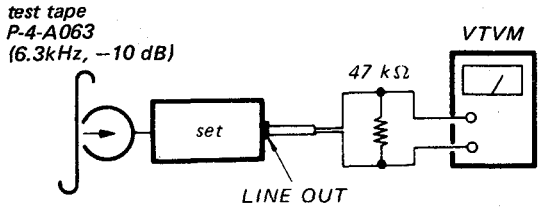


Adjust the speed by using screwdriver. When turning the screw clockwise, speed is faster.

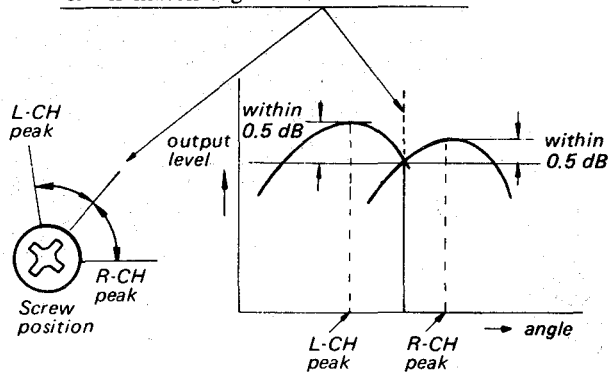
Record/playback Head Azimuth Adjustment

Procedure:

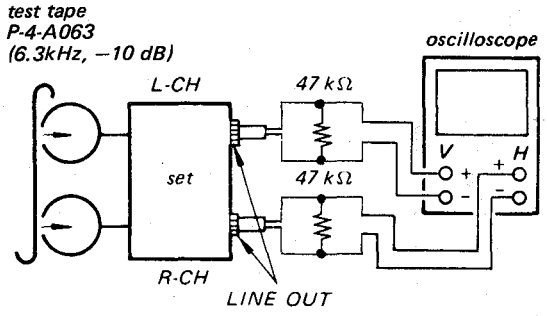
1. Mode: playback

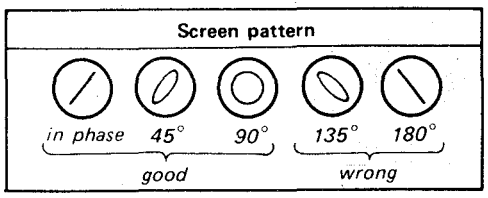


2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 0.5 dB.

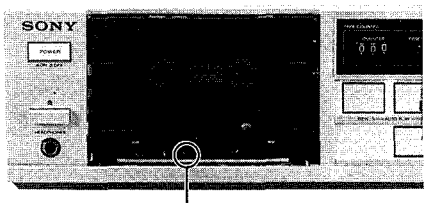


3. Phase Check
   Mode: playback





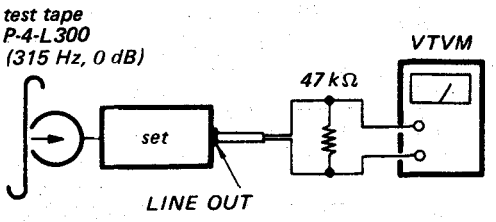
Adjustment Location:



Playback Level Adjustment

Procedure:

Mode: playback



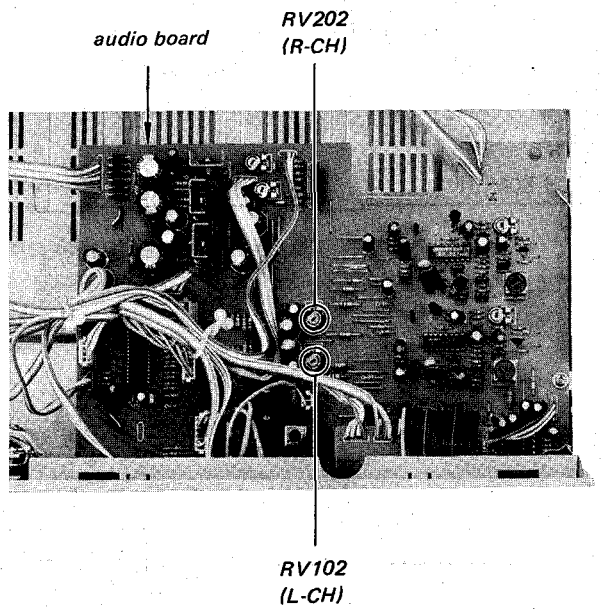
Specification:

LINE OUT level: 0.45 ~ 0.50 V
(−4.9 ~ −3.9 dB)

Level difference between channels:
less than 0.5 dB

Check that the LINE OUT level does not change in playback mode while changing the mode from playback to stop several times.

Adjustment Location:



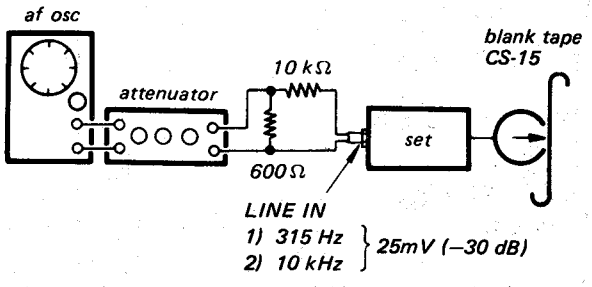
Record Bias Adjustment

Setting:

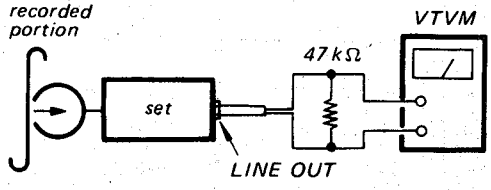
REC LEVEL control: standard record
(See page 10)

Procedure:

1. Mode: record



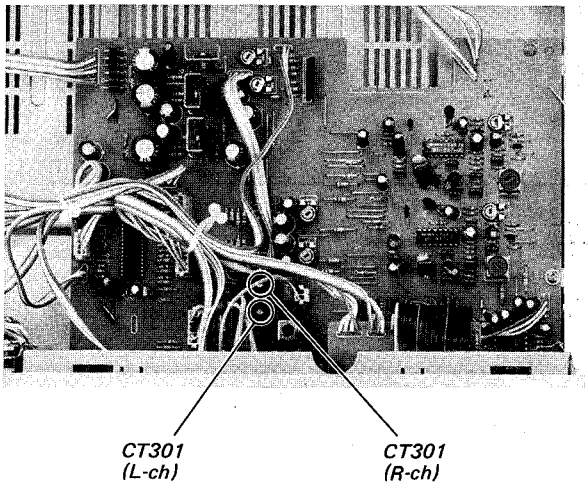
2. Mode: playback



Play back the tape recorded in step 1. Confirm that the LINE OUT level of 10kHz signal is 0dB relative to that of 315Hz. If not, adjust the CT301 and repeat steps 1 and 2.

Adjustment Location:

– Audio board –



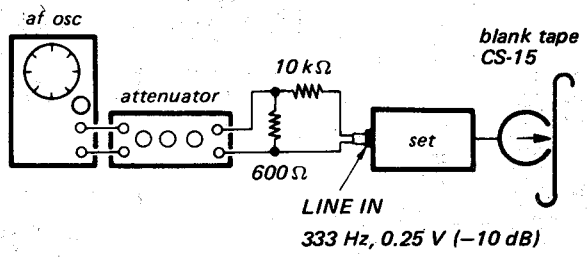
Record Level Adjustment

Setting:

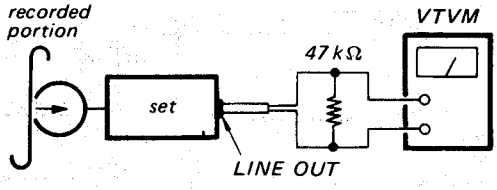
REC LEVEL control: standard record
(See page 10)

Procedure:

1. Mode: record



2. Mode: playback

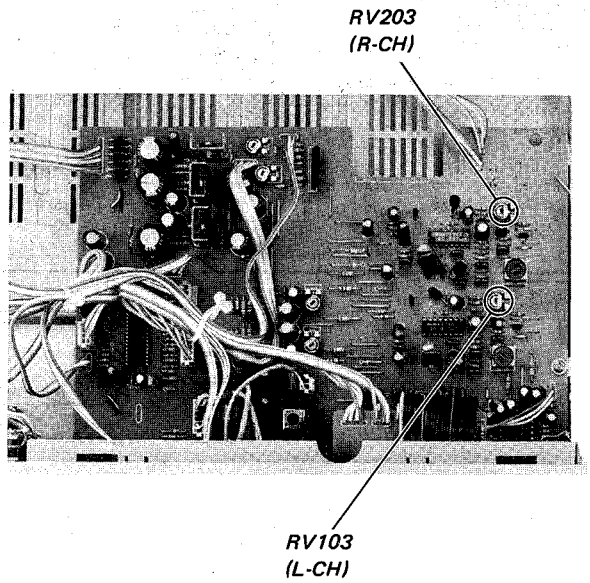


Specification:

LINE OUT level: 0.39 ~ 0.49 V
(–6 ~ –4 dB)

Adjustment Location:

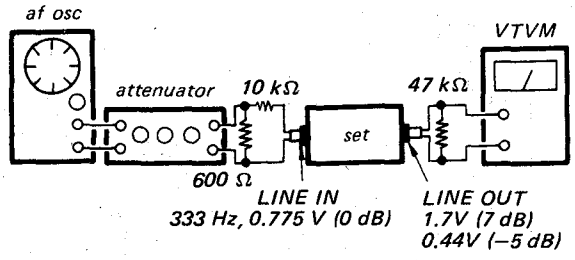
– Audio board –



Level Meter Calibration

Procedure:

1. Mode: record

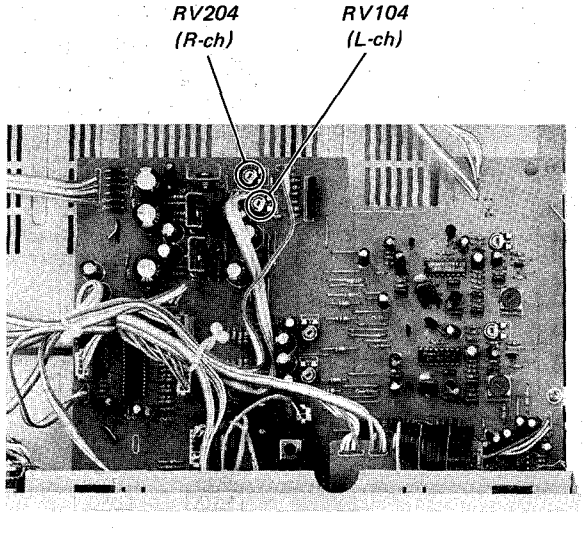


2. Set the REC LEVEL control so that the LINE OUT level is 0.44V (–5dB).
3. Adjust RV401 and RV402 so that the light in the 5th segment from the left of the LED meter goes on.
4. Set the REC LEVEL control so that the LINE OUT level is 1.9V (8dB). Make sure that lights in the segments go on.

Note: Slide the REC LEVEL control rightward slowly.

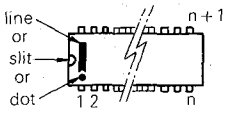
Adjustment Location:

– Audio board –



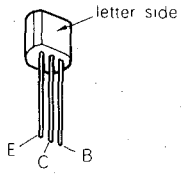
Semiconductor Lead Layouts

CX174-2
TC9310N-040

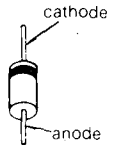


(Top view)

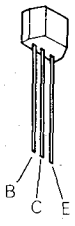
2SA1175



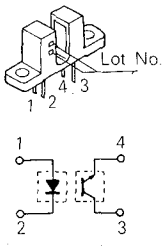
10E-2
1SS202
HZ6BIL
HZ6C2L



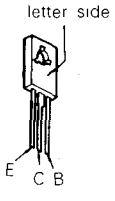
2SC2458
2SD1012
DTA114ES



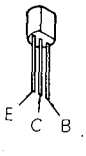
SPI201-20



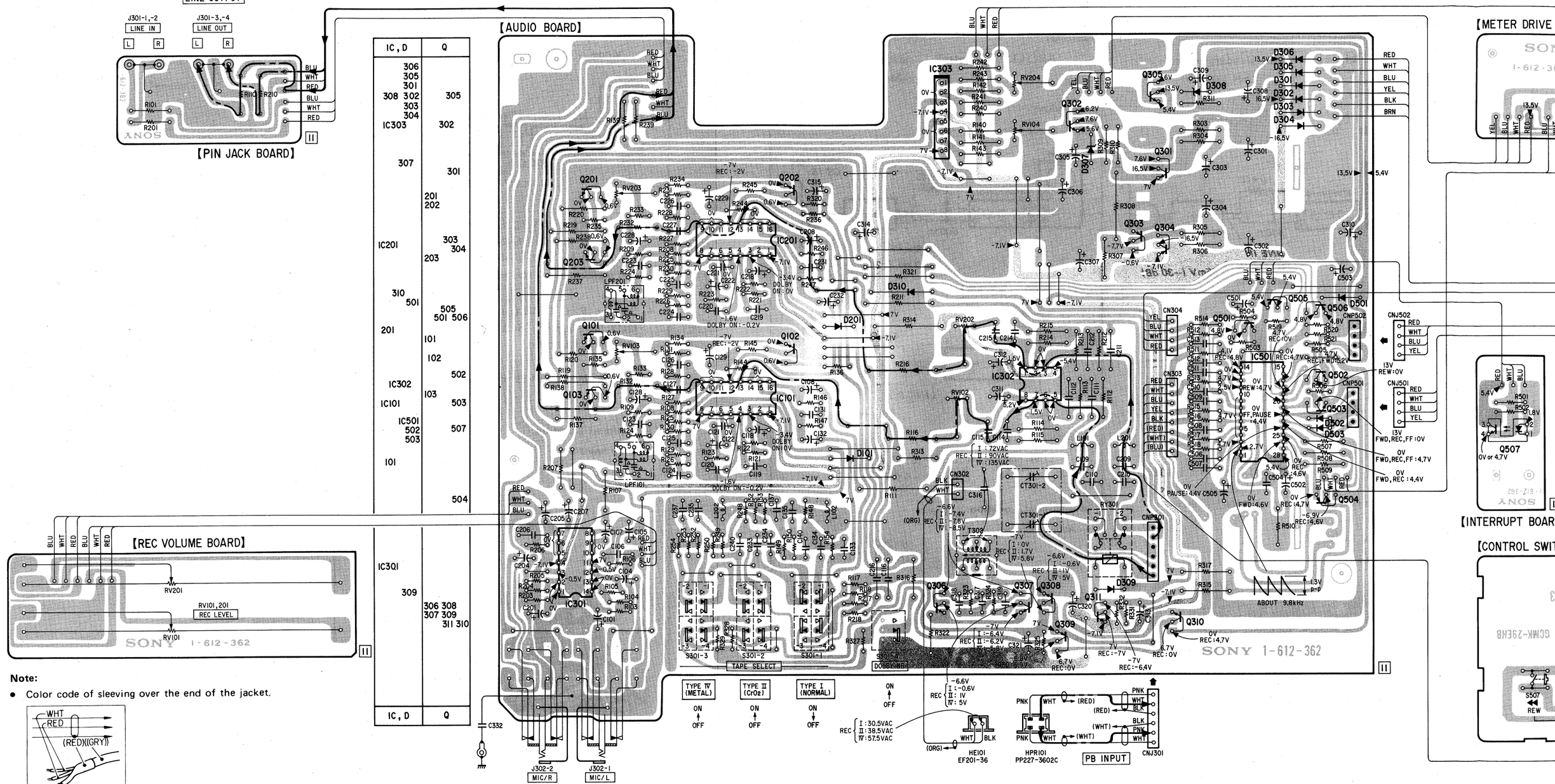
2SB731
2SD809



2SC945-P



4-1. MOUNTING DIAGRAM — *Conductor side* —

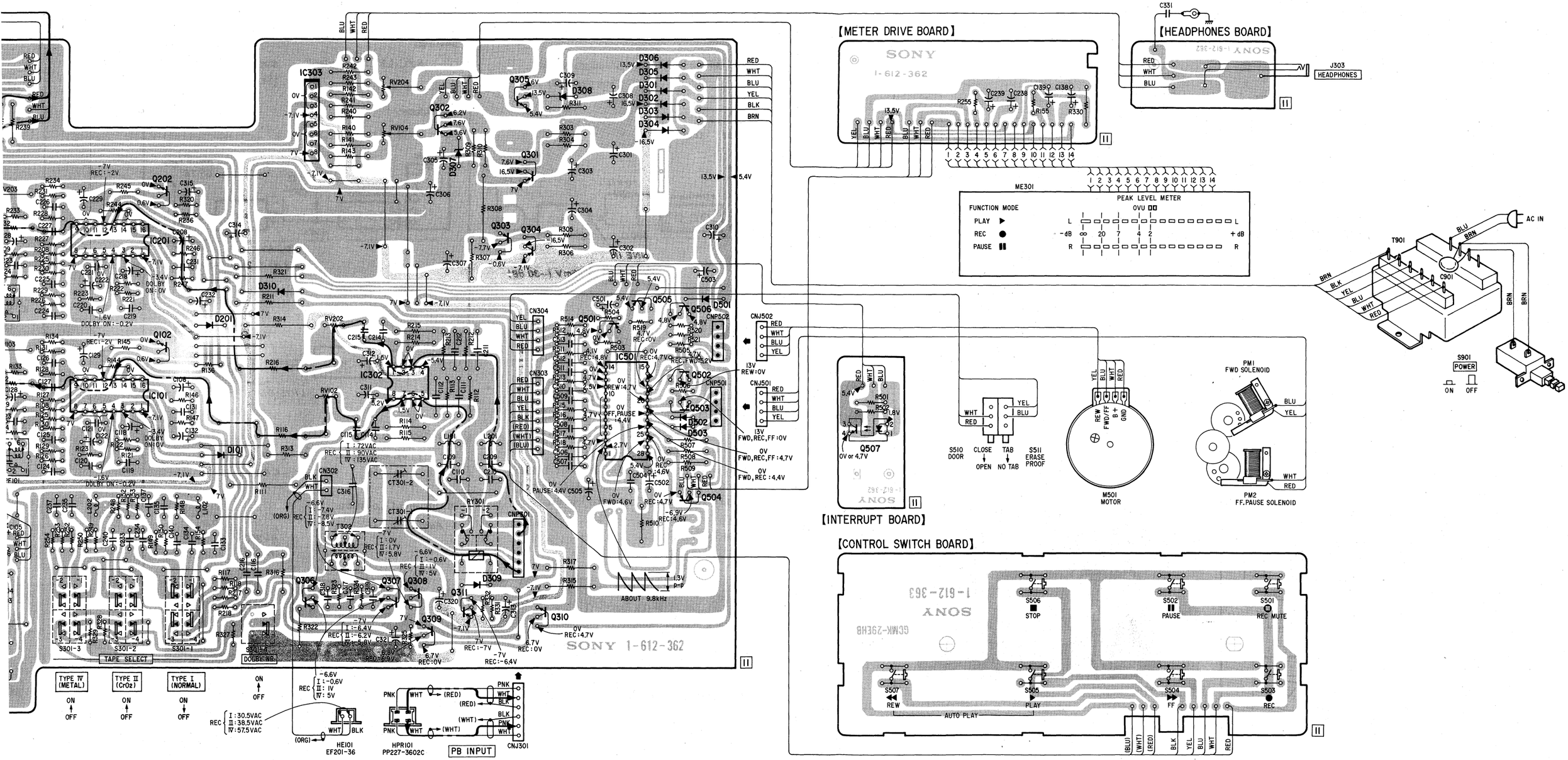


Note:

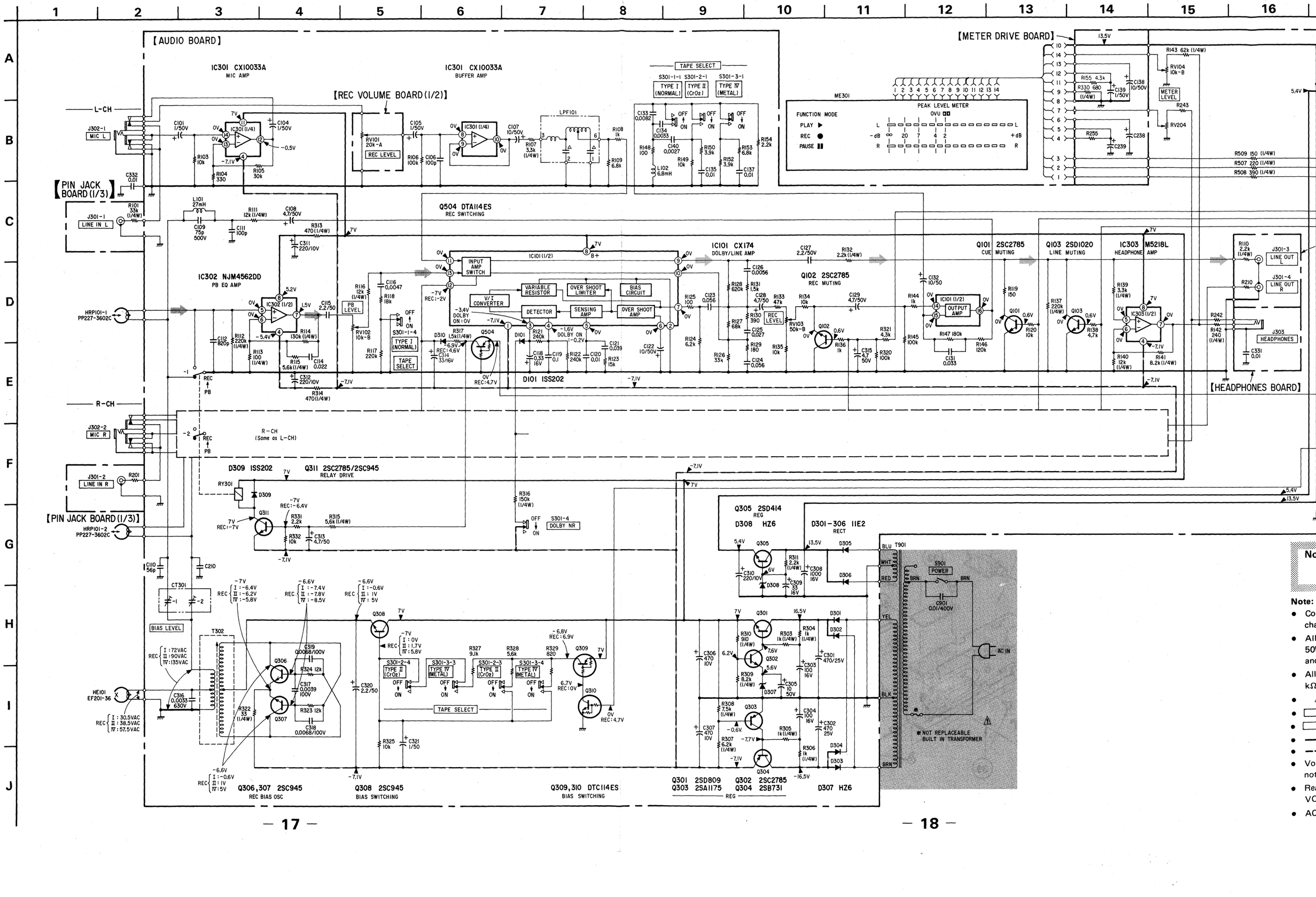
- Color code of sleeving over the end of the jacket.

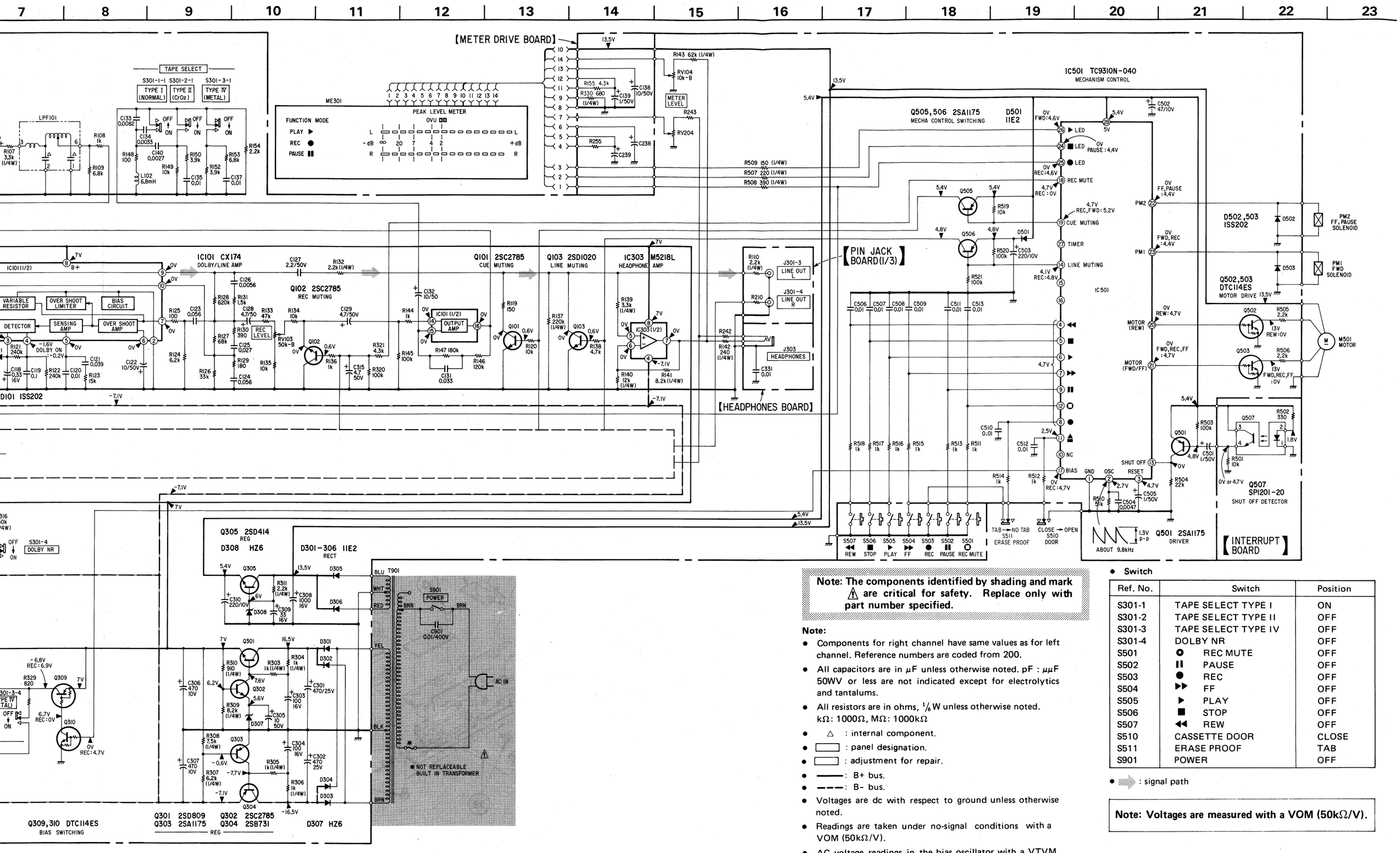
- ○—: parts extracted from the component side.
- ●—: parts extracted from the conductor side.
- [ ]—: indicates side identified with part number.
- ▒▒ : B+ pattern
- ▒▒ : B- pattern
- ●——→——●: signal path
- ●——→——●: L-CH signal path
- ●——→——●: R-CH signal path

7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23



4-2. SCHEMATIC DIAGRAM





Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note:

- Components for right channel have same values as for left channel. Reference numbers are coded from 200.
- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, 1/6 W unless otherwise noted. kΩ: 1000Ω, MΩ: 1000kΩ
- △ : internal component.
- ▭ : panel designation.
- ▭ : adjustment for repair.
- ——: B+ bus.
- – – –: B- bus.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal conditions with a VOM (50kΩ/V).
- AC voltage readings in the bias oscillator with a VTVM.

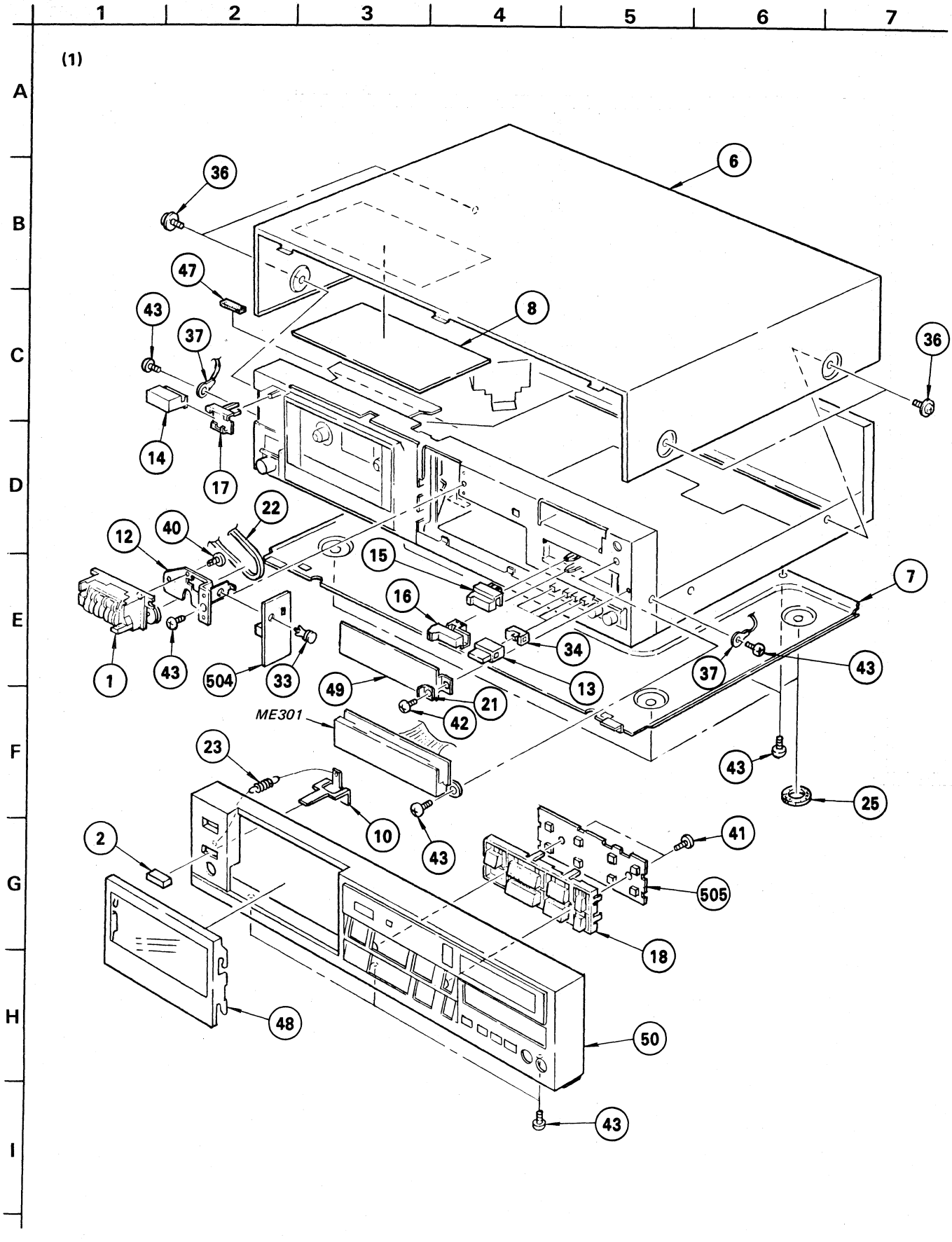
- **Switch**

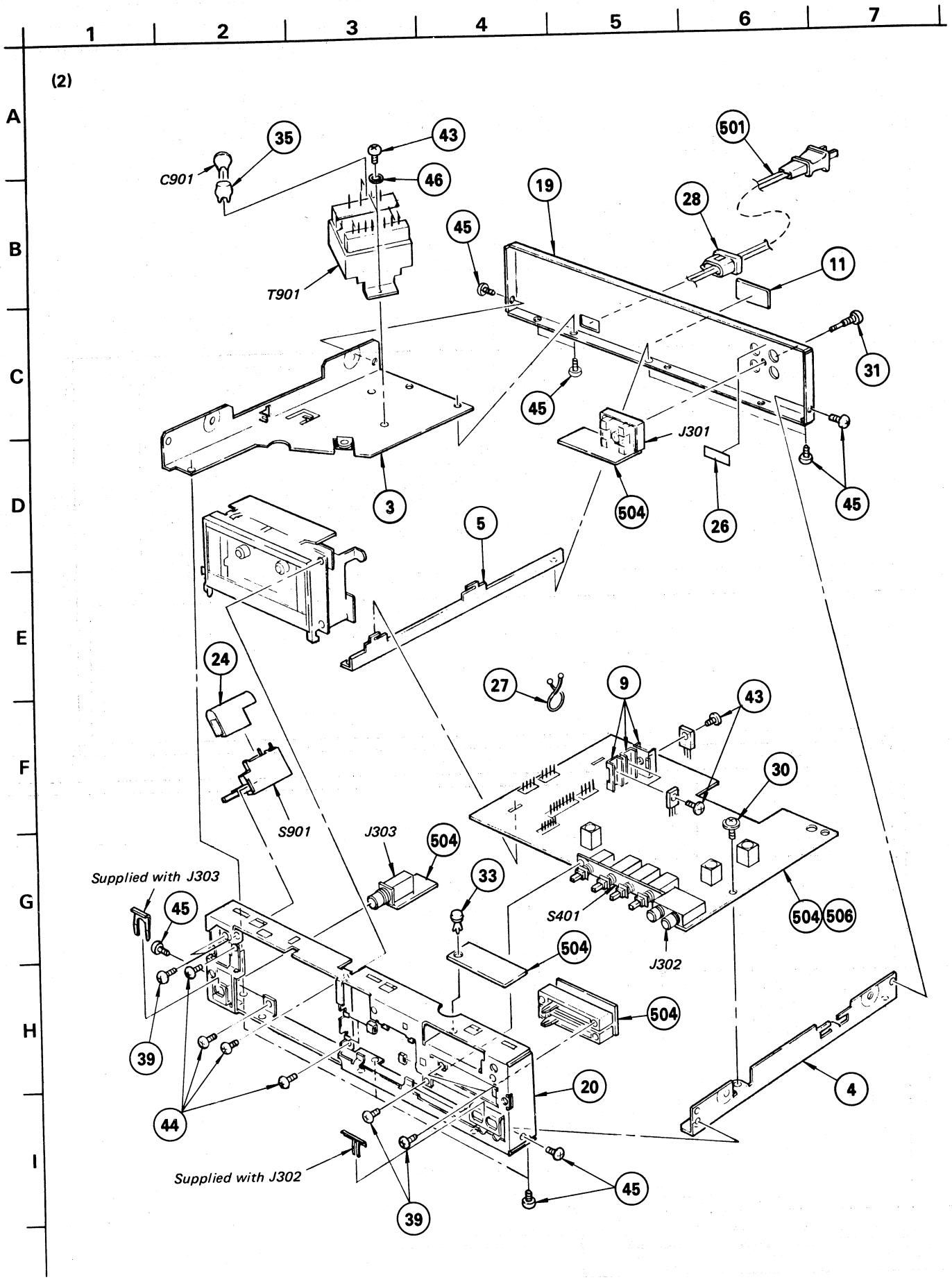
Ref. No.	Switch	Position
S301-1	TAPE SELECT TYPE I	ON
S301-2	TAPE SELECT TYPE II	OFF
S301-3	TAPE SELECT TYPE IV	OFF
S301-4	DOLBY NR	OFF
S501	⏺ REC MUTE	OFF
S502	⏸ PAUSE	OFF
S503	● REC	OFF
S504	⏩ FF	OFF
S505	▶ PLAY	OFF
S506	■ STOP	OFF
S507	⏪ REW	OFF
S510	CASSETTE DOOR	CLOSE
S511	ERASE PROOF	TAB
S901	POWER	OFF

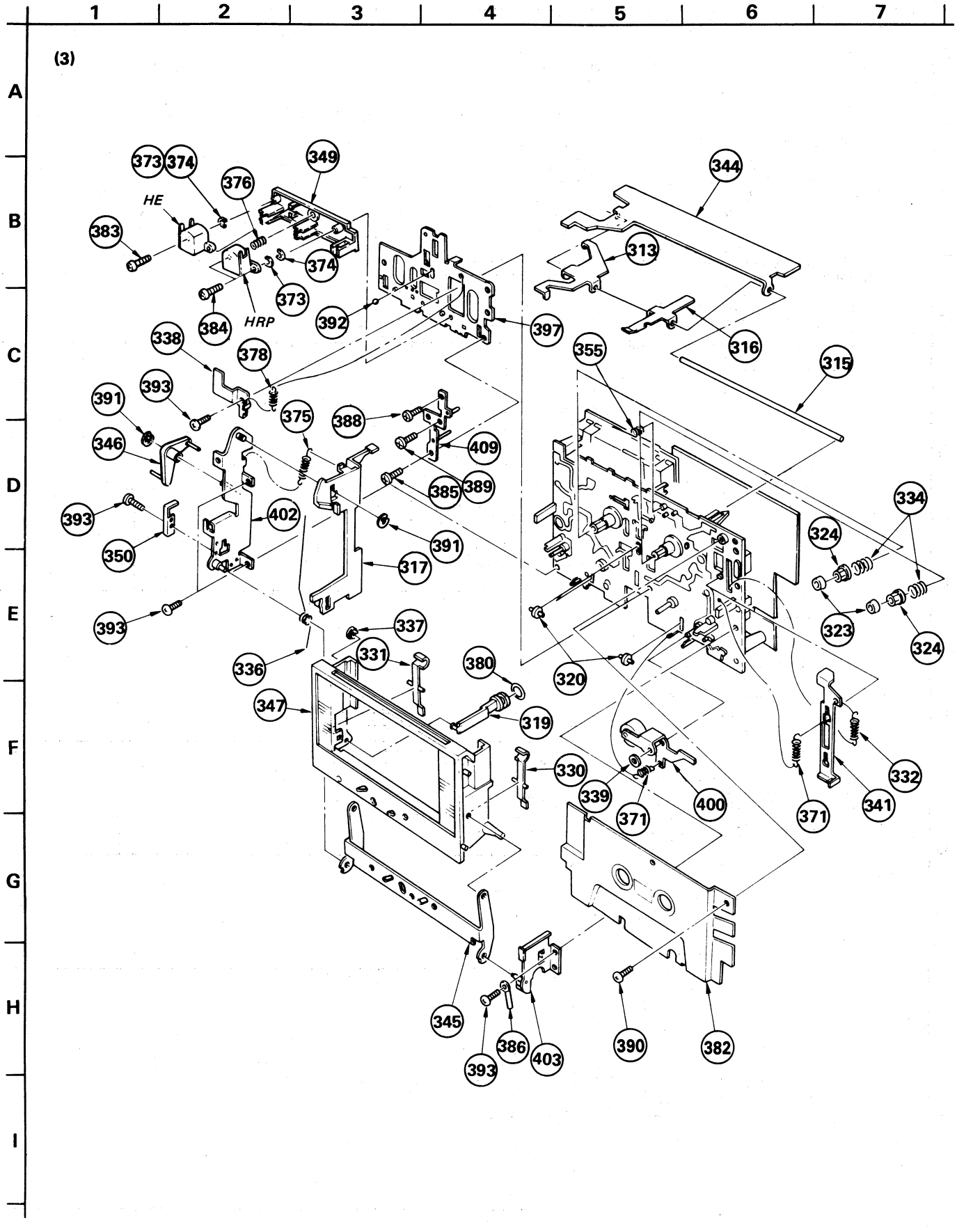
- ⇨ : signal path

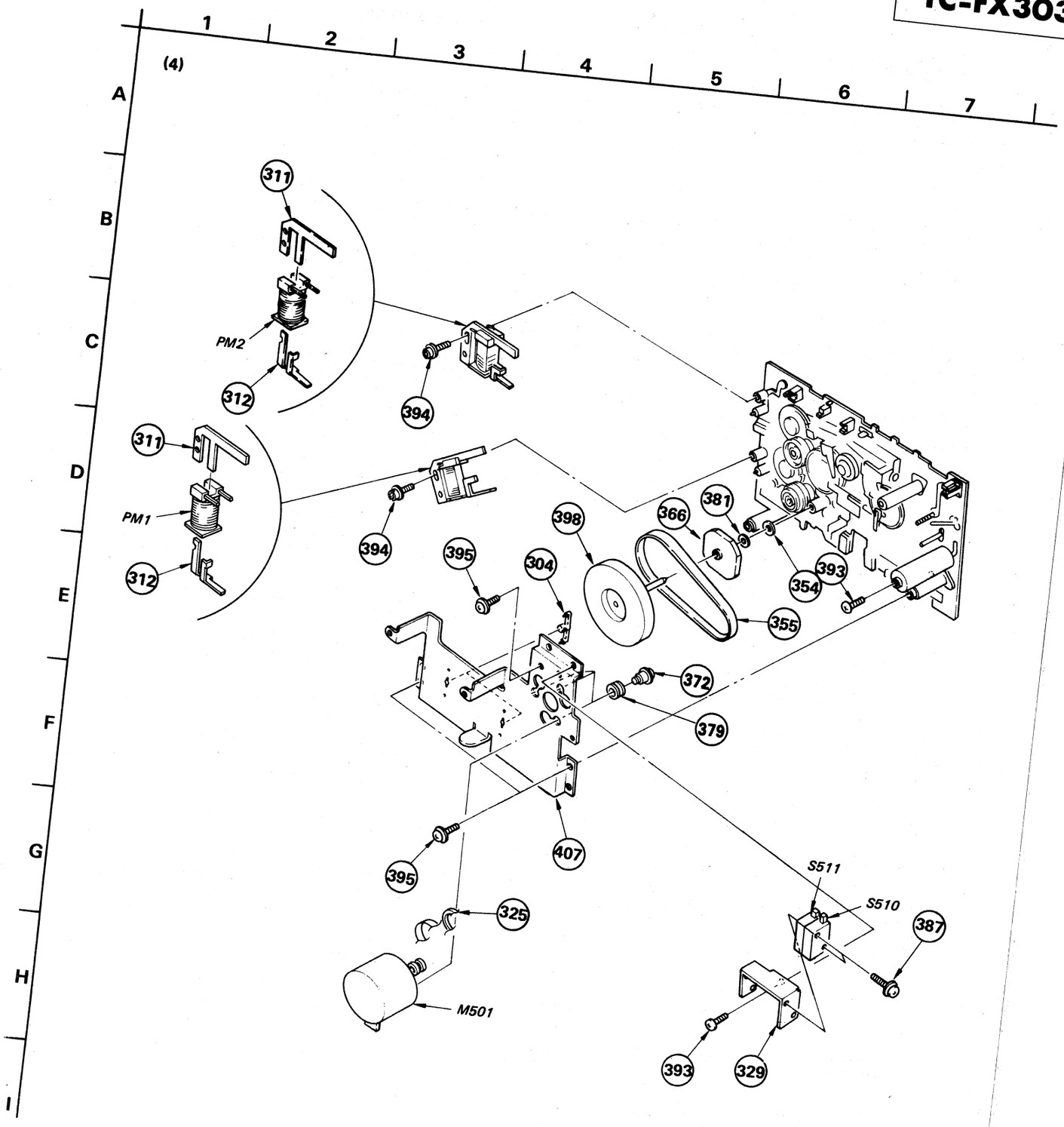
Note: Voltages are measured with a VOM (50kΩ/V).

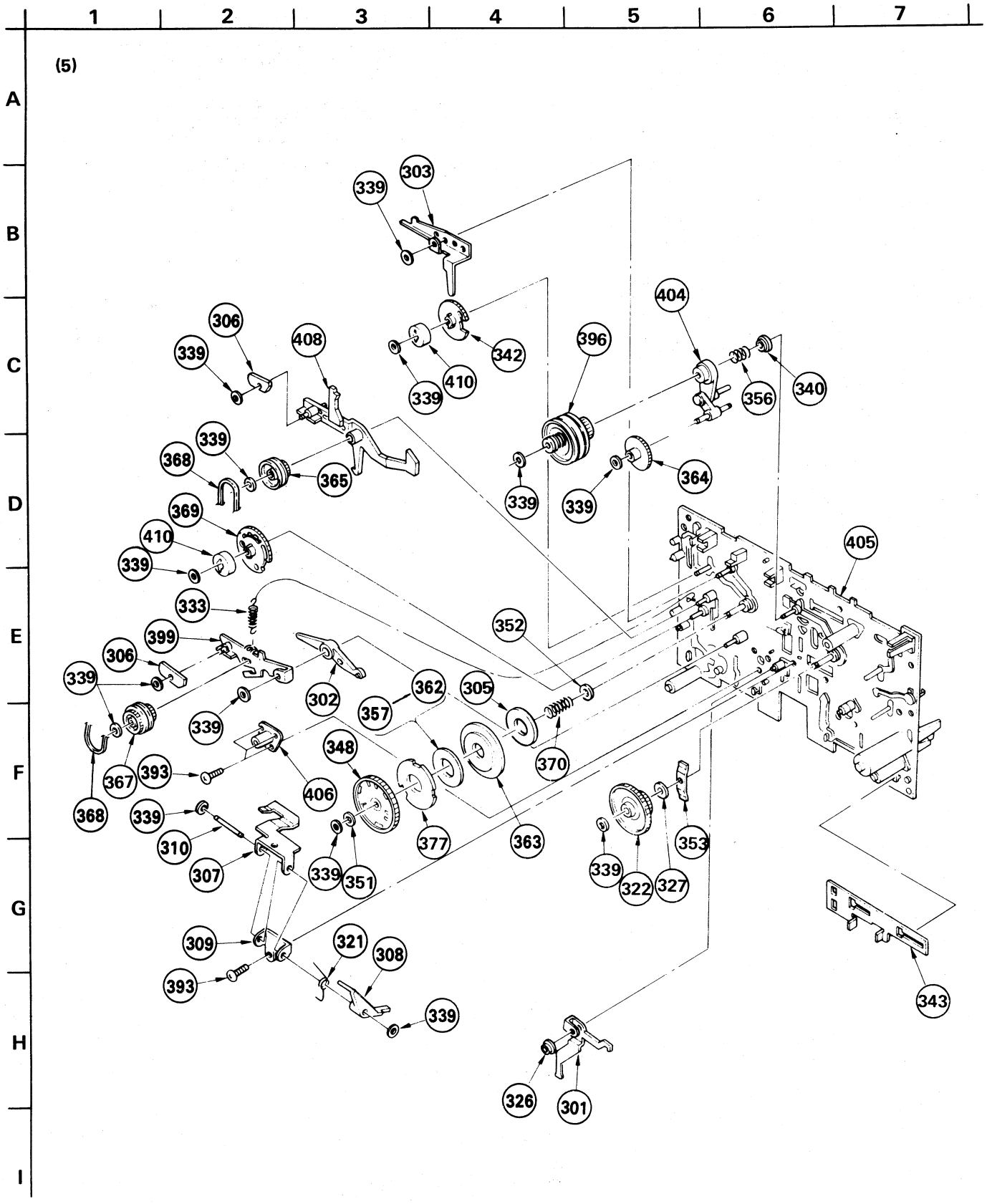
SECTION 5
EXPLODED VIEWS AND PARTS LIST




(2)
1
2
3
4
5
6
7
A
B
C
D
E
F
G
H
I
35
C901
43
46
T901
45
19
501
28
11
31
45
J301
504
26
45
3
5
24
27
9
43
30
S901
J303
504
33
Supplied with J303
45
S401
504
506
J302
504
504
39
20
4
44
Supplied with J302
45
39


(3)
1
2
3
4
5
6
7
A
B
C
D
E
F
G
H
I
HE
HRP
373
374
376
349
383
384
374
373
392
397
344
313
316
338
378
355
315
393
391
375
388
409
346
385
389
334
324
393
402
350
391
317
323
324
393
337
336
331
380
320
347
319
330
339
371
400
371
332
341
345
386
403
393
390
382


(4)
1
2
3
4
5
6
7
A
B
C
D
E
F
G
H
I
311
PM2
312
394
311
PM1
312
394
395
304
398
366
381
354
393
355
372
379
395
407
325
M501
S511
S510
387
393
329


1
2
3
4
5
6
7
A
B
C
D
E
F
G
H
I
(5)
303
339
342
404
306
408
396
410
356
340
368
365
364
369
405
333
352
399
362
305
357
302
348
370
367
393
406
377
363
310
307
353
322
327
309
321
308
343
326
301

GENERAL SECTION

No.	Part No.	Description
1	1-548-574-21	COUNTER, TAPE (NORMAL TYPE)
2	3-304-419-51	BUTTON, EJECT
3 ♦	3-307-525-11	PLATE, SIDE, LEFT
4 ♦	3-307-526-00	PLATE, SIDE, RIGHT
5 ♦	3-307-527-00	PLATE, RELAY
6	3-307-532-21	CASE
7 ♦	3-307-540-00	PLATE, BOTTOM
8	3-307-563-00	SHEET, VIBRATION PROOF
9 ♦	3-312-615-31	HEAT SINK
10 ♦	3-313-259-11	PLATE, SLIDE
11 ♦	3-318-925-01	LABEL, MODEL NUMBER (AE4)
12 ♦	3-318-907-01	BRACKET, COUNTER
13	3-318-909-31	KNOB, PUSH
14	3-318-911-21	KNOB (POWER.L), T MOLD
15	3-318-913-31	KNOB (LEFT), REC CONTROL
16	3-318-914-31	KNOB (RIGHT), REC CONTROL
17	3-318-915-01	JOINT (P), KNOB
18	3-318-918-21	BUTTON BLOCK, CONTROL
19 ♦	3-318-919-21	PLATE, JACK
20 ♦	3-318-920-01	CHASSIS, AMPLIFIER
21	3-318-924-01	PLATE, GROUND
22	3-480-135-00	BELT
23	3-540-244-00	SPRING, TENSION
24	3-575-524-00	COVER, POWER SWITCH
25	3-576-731-00	FELT (H)
26	3-701-030-00	LABEL, SERIAL NUMBER
27	3-701-417-00	PURSE LOCK (11 DIA.)
28	3-703-244-00	BUSHING, CORD
29	.....	
3C	3-703-486-00	+PTTWH 3X5
31	3-703-473-00	SCREW, TERMINAL
32	.....	
33	4-812-134-11	RIVET NYLON, 3.5
34	4-864-307-00	RING
35	4-875-455-01	COVER (DIA. 20), CAPACITOR
36	4-889-321-11	SCREW
37	7-623-508-01	LUG, 3
38	7-682-547-09	SCREW +B 3X6
39	7-682-646-01	SCREW +PS 3X5
40	7-685-533-19	SCREW +BTP 2.6X6 TYPE2 N-S
41	7-685-649-14	SCREW +BVTP 3X14 TYPE2 N-S
42	7-685-862-01	SCREW +BVTT 2.6X6 (S)
43	7-685-871-01	SCREW +BVTT 3X6 (S)
44	7-685-751-09	SCREW +BVTT 3X6 (S)
45	7-685-752-04	SCREW +BVTT 3X8 (S)
46	7-688-004-11	W 4, MIDD
47	9-911-851-XX	CUSHION
48	X-3318-901-2	WINDOW ASSY, CASSETTE
49	X-3318-907-1	PLATE ASSY, ORNAMENTAL
50	X-3318-908-1	PANEL ASSY, FRONT

ACCESSORY & PACKING MATERIAL

No.	Part No.	Description
101	1-551-734-11	CORD, CONNECTION (RK-74A)
102	3-315-149-00	CUSHION (LEFT), LOWER
103	3-315-150-00	CUSHION (RIGHT), LOWER
104	3-315-151-00	CUSHION (LEFT), UPPER
105	3-315-152-00	CUSHION (RIGHT), UPPER
106	3-773-920-41	MANUAL, INSTRUCTION
107	4-876-352-00	SHEET, PROTECTION
108	X-3701-105-0	ROD ASSY, CLEANING, HEAD

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.
- If there are two or more same circuitsin a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:

MF:μF, PF:μμF.

RESISTORS

- All resistors are in ohms.
- F : nonflammable

COILS

- MMH : mH, UH : μH

SEMICONDUCTORS

In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC,
UPD···: μPD···

MECHANISM SECTION

No.	Part No.	Description
301 ♦	3-307-301-00	LEVER (RELAY), FWD SELECT
302	3-307-307-00	LEVER, FWD
303	3-307-308-00	LEVER, FF
304	3-307-309-00	RETAINER (A), THRUST
305	3-307-313-00	PLATE, YOKE
306	3-307-315-00	ARBOR, MOVABLE
307	3-307-319-00	RETAINER, TAKE-UP GEAR
308	3-307-328-00	LEVER, TAKE-UP SELECTION
309 ♦	3-307-329-00	PLATE, FULCRUM, SELECTION LEVER
310	3-307-330-00	PIN, FULCRUM PLATE
311	3-307-332-00	ARBOR, FIXED
312	3-307-333-00	ARBOR, TRIGGER
313 ♦	3-307-337-00	LEVER, REC DETECTION
314 ♦	3-307-338-00	LEVER, METAL DETECTION
315 ♦	3-307-339-00	SHAFT, DETECTION LEVER
316 ♦	3-307-344-00	LEVER, HALF RETAINER
317	3-307-345-00	SLIDER, EJECT
318 ♦	3-307-346-00	LEVER, DETECTION
319	3-307-347-00	PISTON
320	3-307-348-00	ROLLER
321	3-307-355-00	SPRING
322	3-307-360-00	GEAR (S), REEL
323	3-307-362-00	CAP, REEL
324	3-307-363-00	CLAW (N), REEL
325	3-307-366-00	BELT, FAST FORWARD
326	3-307-367-00	BUSHING, SELECT LEVER
327	3-307-369-00	FELT, LIMITER
328	.....	
329 ♦	3-307-370-00	BRACKET, SWITCH
330	3-307-371-00	SPRING (LEFT)
331	3-307-372-00	SPRING (RIGHT)
332	3-307-374-00	SPRING, TENSION
333	3-307-378-00	SPRING, TENSION
334	3-307-380-00	SPRING, COMPRESSION
335	3-307-382-00	SPRING
336	3-307-383-00	SPRING
337	3-307-390-00	BUSHING, LOADING SPRING
338	3-307-391-00	SPRING
339	3-307-394-00	RETAINER (B), THRUST
340	3-307-395-00	RETAINER, SPRING
341	3-307-397-00	SLIDER, PAUSE
342	3-307-401-00	GEAR, FF CAM
343 ♦	3-307-403-00	SLIDER, FWD
344 ♦	3-307-404-00	RETAINER, DETECTION SWITCH
345 ♦	3-307-405-00	PLATE, FULCRUM, CASSETTE HOLDER

MECHANISM SECTION

No.	Part No.	Description
346	3-307-406-00	LEVER, EJECT
347	3-307-407-31	HOLDER, CASSETTE
348	3-307-412-00	GEAR, TAKE-UP REEL
349	3-307-414-00	BRACKET, HEAD
350	3-307-416-00	STOPPER, LOADING
351	3-307-465-00	RETAINER, TAKE-UP
352 ♦	3-307-467-00	RETAINER, SPRING
353	3-307-475-00	PLATE, TENSION, BACK
354	3-307-482-00	WASHER, LUMILER
355	3-307-483-00	BELT (R), CAPSTAN
356	3-307-486-00	SPRING, COMPRESSION
357	3-307-493-01	SPACER
358	3-307-493-11	SPACER
359	3-307-493-21	SPACER
360	3-307-493-31	SPACER
361	3-307-493-41	SPACER
362	3-307-493-51	SPACER
363	3-307-953-00	MAGNET, REEL TABLE
364	3-307-970-00	GEAR, FR
365	3-312-405-00	PULLEY, DRIVING
366	3-312-406-00	GEAR (T), PINION
367	3-312-408-00	GEAR (B), CONVERSION
368	3-312-409-00	BELT, DRIVING
369	3-312-412-00	GEAR (B), CAM, FWD
370	3-312-429-00	SPRING, COMPRESSION
371	3-312-432-00	SPRING, TENSION
372	3-570-027-00	SCREW, MOTOR
373	3-513-237-01	PLATE
374	3-513-237-11	PLATE
375	3-531-541-00	SPRING, TENSION
376	3-539-237-00	SPRING (3), COMPRESSION
377	3-561-827-00	PLATE (A), HYSTERESIS
378	3-570-895-02	SPRING, TENSION
379	3-570-118-00	CUSHION, MOTOR
380	3-575-392-00	RING, PISTON
381	3-701-438-11	WASHER, 2.5
382	3-307-533-00	PLATE, ORNAMENTAL, MD
383	3-701-465-00	SCREW, LOCK
384	3-701-466-00	SCREW, LOCK
385	3-701-467-00	SCREW, LOCK
386 ♦	3-701-822-00	HOLDER, WIRE
387	7-621-760-05	+PSW, 2.6X16
388	7-621-770-20	SCREW +B 2X5
389	7-621-772-00	SCREW +B 2X3
390	7-685-104-19	SCREW +P 2X6 TYPE2 NON-SLIT

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.
- If there are two or more same circuitsin a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:

MF:μF, PF:μμF.

RESISTORS

- All resistors are in ohms.
- F : nonflammable

COILS

- MMH : mH, UH : μH

SEMICONDUCTORS

In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC,
UPD···: μPD···

MECHANISM SECTION

No.	Part No.	Description
391	7-624-105-04	STOP RING 2.3, TYPE -E
392	7-671-111-11	STEEL, ROUL 1.5MM
393	7-685-860-04	SCREW +BVTT 2.6X4 (S)
394	7-687-204-21	TOTSU PTPWH 2X6 NON-SLIT, TYPE2
395	7-687-246-21	SCREW, TOTSU PTPWH 3X8, TYPE2
396	A-2142-022-A	PULLEY ASSY, FR
397	X-3307-301-0	CHASSIS (N) ASSY, HEAD
398	X-3307-302-5	FLYWHEEL (N) ASSY
399 ♦	X-3307-305-0	LEVER ASSY, FWD LOCK
400	X-3307-307-0	PINCH ROLLER (N) ASSY
401	.....	
402 ♦	X-3307-309-0	PLATE (LEFT) ASSY, SIDE
403 ♦	X-3307-310-0	PLATE (RIGHT) ASSY, SIDE
404	X-3307-312-0	LEVER ASSY, FR
405	X-3307-330-1	CHASSIS (N) ASSY, MECHANICAL
406	X-3307-338-0	BEARING ASSY, CAPSTAN
407 ♦	X-3307-345-0	RETAINER ASSY, THRUST
408	X-3307-348-0	LEVER ASSY, FF LOCK
409	X-3307-920-0	PLATE ASSY, ADJUSTMENT
410	1-452-202-00	MAGNET

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
501	⚠1-534-817-XX	CORD, POWER, EURO PLUG			
502	.....				
503	.....				
504 ♦	1-612-362-11	PC BOARD, AUDIO			
505 ♦	1-612-363-11	PC BOARD, CONTROL SW			
506 ♦	A-2056-221-A	PC BOARD ASSY, AUDIO			
C101	1-123-380-00	ELECT	1MF	20%	50V
C104	1-123-380-00	ELECT	1MF	20%	50V
C105	1-123-380-00	ELECT	1MF	20%	50V
C106	1-162-037-00	CERAMIC	100PF	5%	50V
C107	1-123-356-00	ELECT	10MF	20%	50V
C108	1-123-369-00	ELECT	4.7MF	20%	50V
C109	1-107-167-00	MICA	75PF	5%	500V
C110	1-107-165-00	MICA	56PF	5%	500V
C111	1-161-271-00	CERAMIC	100PF	5%	50V
C112	1-161-322-00	CERAMIC	820PF	10%	50V
C114	1-130-624-00	FILM	0.022MF	5%	50V
C115	1-123-381-00	ELECT	2.2MF	20%	50V
C116	1-162-112-00	CERAMIC	0.0047MF	30%	25V
C118	1-131-409-00	ELECT(SOLID)	0.33MF	20%	16V
C119	1-130-632-00	FILM	0.1MF	5%	50V
C120	1-130-620-00	FILM	0.01MF	5%	50V
C121	1-130-627-00	FILM	0.039MF	5%	50V
C122	1-123-356-00	ELECT	10MF	20%	50V
C123	1-130-629-00	FILM	0.056MF	5%	50V
C124	1-130-629-00	FILM	0.056MF	5%	50V
C125	1-130-625-00	FILM	0.027MF	5%	50V
C126	1-108-573-00	MYLAR	0.0056MF	5%	50V
C127	1-124-183-00	ELECT	2.2MF	20%	25V
C128	1-123-369-00	ELECT	4.7MF	20%	50V
C129	1-123-369-00	ELECT	4.7MF	20%	50V
C131	1-130-626-00	FILM	0.033MF	5%	50V
C132	1-123-356-00	ELECT	10MF	20%	50V
C133	1-108-577-00	MYLAR	0.0082MF	5%	50V
C134	1-108-567-00	MYLAR	0.0033MF	5%	50V
C135	1-130-620-00	FILM	0.01MF	5%	50V
C137	1-130-620-00	FILM	0.01MF	5%	50V
C138	1-123-356-00	ELECT	10MF	20%	50V
C139	1-123-380-00	ELECT	1MF	20%	50V
C140	1-108-565-00	MYLAR	0.0027MF	5%	50V
C301	1-123-336-00	ELECT	470MF	20%	25V
C302	1-123-336-00	ELECT	470MF	20%	25V
C303	1-123-320-00	ELECT	100MF	20%	16V
C304	1-123-320-00	ELECT	100MF	20%	16V
C305	1-123-356-00	ELECT	10MF	20%	50V

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.
- If there are two or more same circuitsin a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:

MF:μF, PF:μμF.

RESISTORS

- All resistors are in ohms.
- F : nonflammable

COILS

- MMH : mH, UH : μH

SEMICONDUCTORS

In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC,
UPD···: μPD···

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C306	1-123-310-00	ELECT	470MF	20%	10V
C307	1-123-310-00	ELECT	470MF	20%	10V
C308	1-123-324-00	ELECT	1000MF	20%	16V
C309	1-123-318-00	ELECT	33MF	20%	16V
C310	1-123-308-00	ELECT	220MF	20%	10V
C311	1-123-308-00	ELECT	220MF	20%	10V
C312	1-123-308-00	ELECT	220MF	20%	10V
C313	1-123-369-00	ELECT	4.7MF	20%	50V
C314	1-123-318-00	ELECT	33MF	20%	16V
C315	1-123-369-00	ELECT	4.7MF	20%	50V
C316	1-129-708-00	FILM	0.0033MF	10%	630V
C317	1-130-287-00	FILM	0.0039MF	5%	100V
C318	1-130-293-00	FILM	0.0068MF	5%	100V
C319	1-130-293-00	FILM	0.0068MF	5%	100V
C320	1-123-381-00	ELECT	2.2MF	20%	50V
C321	1-123-380-00	ELECT	1MF	20%	50V
C331	1-162-113-00	CERAMIC	0.01MF	30%	16V
C332	1-162-113-00	CERAMIC	0.01MF	30%	16V
C501	1-123-380-00	ELECT	1MF	20%	50V
C502	1-123-306-00	ELECT	47MF	20%	10V
C503	1-123-308-00	ELECT	220MF	20%	10V
C504	1-108-571-00	MYLAR	0.0047MF	5%	50V
C505	1-123-380-00	ELECT	1MF	20%	50V
C506	1-162-113-00	CERAMIC	0.01MF	30%	16V
C507	1-162-113-00	CERAMIC	0.01MF	30%	16V
C508	1-162-113-00	CERAMIC	0.01MF	30%	16V
C509	1-162-113-00	CERAMIC	0.01MF	30%	16V
C510	1-162-113-00	CERAMIC	0.01MF	30%	16V
C511	1-162-113-00	CERAMIC	0.01MF	30%	16V
C512	1-162-113-00	CERAMIC	0.01MF	30%	16V
C513	1-162-113-00	CERAMIC	0.01MF	30%	16V
C901 ⚠	1-161-744-00	CAP, CERAMIC	10000PF FZ		400V
♦CNP301	1-560-064-00	PIN, CONNECTOR 6P			
♦CNP302	1-560-060-00	PIN, CONNECTOR 2P			
♦CNP303	1-560-065-00	PIN, CONNECTOR 8P			
♦CNP501	1-560-062-00	PIN, CONNECTOR 4P			
♦CNP502	1-560-062-00	PIN, CONNECTOR 4P			
♦CNP504	1-560-062-00	PIN, CONNECTOR 4P			
CT301	1-141-225-00	CAP, TUNING, TRIMAR			
D101	8-719-107-94	DIODE 1SS202			
D201	8-719-107-94	DIODE 1SS202			
D301	8-719-200-02	DIODE 10E-2			
D302	8-719-200-02	DIODE 10E-2			
D303	8-719-200-02	DIODE 10E-2			
D304	8-719-200-02	DIODE 10E-2			

ELECTRICAL PARTS

Ref.No.	Part No.	Description
D305	8-719-200-02	DIODE 10E-2
D306	8-719-200-02	DIODE 10E-2
D307	8-719-910-64	DIODE HZ6B1L
D308	8-719-910-68	DIODE HZ6C2L
D309	8-719-107-94	DIODE 1SS202
D310	8-719-107-94	DIODE 1SS202
D501	8-719-200-02	DIODE 10E-2
D502	8-719-107-94	DIODE 1SS202
D503	8-719-107-94	DIODE 1SS202
D504	8-719-107-94	DIODE 1SS202
D505	8-719-107-94	DIODE 1SS202
D506	8-719-107-94	DIODE 1SS202
HE	8-825-724-00	HEAD, ERASE (EF-201-36)
HRP	8-825-507-60	HEAD, REC/PB (PP227-3602C)
IC101	8-759-905-57	IC CX-174-2
IC201	8-759-905-57	IC CX-174-2
IC301	8-759-101-56	IC CX10033A
IC302	8-759-705-62	IC NJM4562D-D
IC303	8-759-600-02	IC M5218L
IC501	8-759-202-05	IC TC9310N-040
J301	1-507-908-11	JACK, PIN 4P (LINE IN, LINE OUT)
J302	1-507-797-21	JACK, LARGE TYPE (MIC)
J303	1-507-796-21	JACK (HEADPHONES)
L101	1-408-929-00	MICRO INDUCTOR 27MMH
L102	1-408-922-00	MICRO INDUCTOR 6.8MMH
L201	1-408-929-00	MICRO INDUCTOR 27MMH
L202	1-408-922-00	MICRO INDUCTOR 6.8MMH
LPF101	1-231-388-00	FILTER, LOW PASS
LPF201	1-231-388-00	FILTER, LOW PASS
M501	X-3307-308-3	MOTOR (N) ASSY
ME301	1-520-463-11	LED BLOCK (LEVEL METER)
PM1	1-454-316-00	SOLENOID, PLUNGER
PM2	1-454-316-00	SOLENOID, PLUNGER
Q101	8-729-245-83	TRANSISTOR 2SC2458
Q102	8-729-245-83	TRANSISTOR 2SC2458
Q103	8-729-811-24	TRANSISTOR 2SD1012
Q201	8-729-245-83	TRANSISTOR 2SC2458
Q202	8-729-245-83	TRANSISTOR 2SC2458
Q203	8-729-811-24	TRANSISTOR 2SD1012
Q301	8-729-180-93	TRANSISTOR 2SD809
Q302	8-729-245-83	TRANSISTOR 2SC2458
Q303	8-729-117-54	TRANSISTOR 2SA1175

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.
- If there are two or more same circuitsin a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:

MF:μF, PF:μμF.

RESISTORS

- All resistors are in ohms.
- F : nonflammable

COILS

- MMH : mH, UH : μH

SEMICONDUCTORS

In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC,
UPD···: μPD···

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

ELECTRICAL PARTS

Ref.No.	Part No.	Description
Q304	8-729-173-13	TRANSISTOR 2SB731
Q305	8-729-141-43	TRANSISTOR 2SD414
Q306	8-729-194-57	TRANSISTOR 2SC945-P
Q307	8-729-194-57	TRANSISTOR 2SC945-P
Q308	8-729-194-57	TRANSISTOR 2SC945-P
Q309	8-729-900-61	TRANSISTOR DTA114ES
Q310	8-729-900-80	TRANSISTOR DTC114ES
Q311	8-729-194-57	TRANSISTOR 2SC945-P
Q501	8-729-117-54	TRANSISTOR 2SA1175
Q502	8-729-900-80	TRANSISTOR DTC114ES
Q503	8-729-900-80	TRANSISTOR DTC114ES
Q504	8-729-900-61	TRANSISTOR DTA114ES
Q505	8-729-117-54	TRANSISTOR 2SA1175
Q506	8-729-117-54	TRANSISTOR 2SA1175
Q507	8-719-902-90	PHOTO INTERRUPTOR SPI201-20
R101	1-247-167-00	CARBON 33K 5% 1/4W
R103	1-247-855-00	CARBON 10K 5% 1/6W
R104	1-247-819-00	CARBON 330 5% 1/6W
R105	1-247-866-00	CARBON 30K 5% 1/6W
R106	1-247-879-00	CARBON 100K 5% 1/6W
R107	1-246-485-00	CARBON 3.3K 5% 1/4W
R108	1-247-831-00	CARBON 1K 5% 1/6W
R109	1-247-851-00	CARBON 6.8K 5% 1/6W
R110	1-247-139-00	CARBON 2.2K 5% 1/4W
R111	1-246-499-00	CARBON 12K 5% 1/4W
R112	1-246-529-00	CARBON 220K 5% 1/4W
R113	1-247-107-00	CARBON 100 5% 1/4W
R114	1-246-524-00	CARBON 130K 5% 1/4W
R115	1-247-149-00	CARBON 5.6K 5% 1/4W
R116	1-246-499-00	CARBON 12K 5% 1/4W
R117	1-247-887-00	CARBON 220K 5% 1/6W
R118	1-247-861-00	CARBON 18K 5% 1/6W
R119	1-247-811-00	CARBON 150 5% 1/6W
R120	1-247-855-00	CARBON 10K 5% 1/6W
R121	1-247-888-00	CARBON 240K 5% 1/6W
R122	1-247-888-00	CARBON 240K 5% 1/6W
R123	1-247-859-00	CARBON 15K 5% 1/6W
R124	1-247-850-00	CARBON 6.2K 5% 1/6W
R125	1-247-807-00	CARBON 100 5% 1/6W
R126	1-247-867-00	CARBON 33K 5% 1/6W
R127	1-247-875-00	CARBON 68K 5% 1/6W
R128	1-247-898-00	CARBON 620K 5% 1/6W
R129	1-247-813-00	CARBON 180 5% 1/6W
R130	1-247-821-00	CARBON 390 5% 1/6W
R131	1-247-835-00	CARBON 1.5K 5% 1/6W

ELECTRICAL PARTS

Ref.No.	Part No.	Description
R132	1-247-139-00	CARBON 2.2K 5% 1/4W
R133	1-247-871-00	CARBON 47K 5% 1/6W
R134	1-247-855-00	CARBON 10K 5% 1/6W
R135	1-247-855-00	CARBON 10K 5% 1/6W
R136	1-247-831-00	CARBON 1K 5% 1/6W
R137	1-246-529-00	CARBON 220K 5% 1/4W
R138	1-247-847-00	CARBON 4.7K 5% 1/6W
R139	1-246-485-00	CARBON 3.3K 5% 1/4W
R140	1-246-499-00	CARBON 12K 5% 1/4W
R141	1-246-495-00	CARBON 8.2K 5% 1/4W
R142	1-246-458-00	CARBON 240 5% 1/4W
R143	1-246-516-00	CARBON 62K 5% 1/4W
R144	1-247-831-00	CARBON 1K 5% 1/6W
R145	1-247-879-00	CARBON 100K 5% 1/6W
R146	1-247-881-00	CARBON 120K 5% 1/6W
R147	1-247-885-00	CARBON 180K 5% 1/6W
R148	1-247-807-00	CARBON 100 5% 1/6W
R149	1-247-855-00	CARBON 10K 5% 1/6W
R150	1-247-845-00	CARBON 3.9K 5% 1/6W
R152	1-247-845-00	CARBON 3.9K 5% 1/6W
R153	1-247-851-00	CARBON 6.8K 5% 1/6W
R154	1-247-839-00	CARBON 2.2K 5% 1/6W
R155	1-247-846-00	CARBON 4.3K 5% 1/6W
R303	1-247-131-00	CARBON 1K 5% 1/4W
R304	1-247-131-00	CARBON 1K 5% 1/4W
R305	1-247-131-00	CARBON 1K 5% 1/4W
R306	1-247-131-00	CARBON 1K 5% 1/4W
R307	1-246-492-00	CARBON 6.2K 5% 1/4W
R308	1-246-494-00	CARBON 7.5K 5% 1/4W
R309	1-246-495-00	CARBON 8.2K 5% 1/4W
R310	1-246-472-00	CARBON 910 5% 1/4W
R311	1-247-139-00	CARBON 2.2K 5% 1/4W
R313	1-247-123-00	CARBON 470 5% 1/4W
R314	1-247-123-00	CARBON 470 5% 1/4W
R315	1-247-149-00	CARBON 5.6K 5% 1/4W
R316	1-246-525-00	CARBON 150K 5% 1/4W
R317	1-247-135-00	CARBON 1.5K 5% 1/4W
R320	1-247-879-00	CARBON 100K 5% 1/6W
R321	1-247-846-00	CARBON 4.3K 5% 1/6W
R322	1-246-437-00	CARBON 33 5% 1/4W
R323	1-247-857-00	CARBON 12K 5% 1/6W
R324	1-247-857-00	CARBON 12K 5% 1/6W
R325	1-247-855-00	CARBON 10K 5% 1/6W
R327	1-247-854-00	CARBON 9.1K 5% 1/6W
R328	1-247-849-00	CARBON 5.6K 5% 1/6W

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.
- If there are two or more same circuitsin a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:

MF:μF, PF:μμF.

RESISTORS

- All resistors are in ohms.
- F : nonflammable

COILS

- MMH : mH, UH : μH

SEMICONDUCTORS

In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC,
UPD···: μPD···

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R329	1-247-829-00	CARBON	820	5%	1/6W
R330	1-246-469-00	CARBON	680	5%	1/4W
R331	1-247-839-00	CARBON	2.2K	5%	1/6W
R332	1-247-855-00	CARBON	10K	5%	1/6W
R501	1-247-855-00	CARBON	10K	5%	1/6W
R502	1-247-819-00	CARBON	330	5%	1/6W
R503	1-247-879-00	CARBON	100K	5%	1/6W
R504	1-247-863-00	CARBON	22K	5%	1/6W
R505	1-247-839-00	CARBON	2.2K	5%	1/6W
R506	1-247-839-00	CARBON	2.2K	5%	1/6W
R507	1-247-115-00	CARBON	220	5%	1/4W
R508	1-247-121-00	CARBON	390	5%	1/4W
R509	1-247-111-00	CARBON	150	5%	1/4W
R510	1-247-872-00	CARBON	51K	5%	1/6W
R511	1-247-831-00	CARBON	1K	5%	1/6W
R512	1-247-831-00	CARBON	1K	5%	1/6W
R513	1-247-831-00	CARBON	1K	5%	1/6W
R514	1-247-831-00	CARBON	1K	5%	1/6W
R515	1-247-831-00	CARBON	1K	5%	1/6W
R516	1-247-831-00	CARBON	1K	5%	1/6W
R517	1-247-831-00	CARBON	1K	5%	1/6W
R518	1-247-831-00	CARBON	1K	5%	1/6W
R519	1-247-855-00	CARBON	10K	5%	1/6W
R520	1-247-879-00	CARBON	100K	5%	1/6W
R521	1-247-879-00	CARBON	100K	5%	1/6W
RV101	1-230-358-11	RES, VAR, SLIDE 20K/20K (REC LEVEL)			
RV102	1-226-236-00	RES, ADJ, CARBON 10K			
RV103	1-226-238-00	RES, ADJ, CARBON 50K			
RV104	1-226-236-00	RES, ADJ, CARBON 10K			
RV201	1-230-358-11	RES, VAR, SLIDE 20K/20K (REC LEVEL)			
RV202	1-226-236-00	RES, ADJ, CARBON 10K			
RV203	1-226-238-00	RES, ADJ, CARBON 50K			
RV204	1-226-236-00	RES, ADJ, CARBON 10K			
RY301	1-515-495-00	RELAY			

ELECTRICAL PARTS

Ref.No.	Part No.	Description
S301	1-554-747-11	SWITCH, PUSH (4KEY) (TAPE SELECT, DOLBY NR)
S501	1-554-303-00	SWITCH, KEY BOARD
S502	1-554-303-00	SWITCH, KEY BOARD
S503	1-554-303-00	SWITCH, KEY BOARD
S504	1-554-303-00	SWITCH, KEY BOARD
S505	1-554-303-00	SWITCH, KEY BOARD
S506	1-554-303-00	SWITCH, KEY BOARD
S507	1-554-303-00	SWITCH, KEY BOARD
S510	1-554-422-00	SWITCH, PUSH (EJECT DET)
S511	1-554-422-00	SWITCH, PUSH (ERASE PROOF)
S901 ⚠	1-553-318-00	SWITCH, PUSH (AC POWER)(1 KEY)
T302	1-433-267-00	TRANSFORMER, OSCILLATOR
T901 ⚠	1-447-358-11	TRANSFORMER, POWER

NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.
- If there are two or more same circuitsin a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms.
- F : nonflammable

COILS
- MMH : mH, UH : μH

SEMICONDUCTORS
In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC,
UPD···: μPD···

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

© 1984